Hemolytic Uremic Syndrome (HUS)

Agent: Serious sequelae associated with infection from Shiga toxin-producing bacteria (*E. coli* or *Shigella). E. coli* O157:H7 is the bacterium most commonly associated with HUS.
Mode of Transmission: HUS is not transmitted from person to person. Infection with Shiga toxin-producing bacteria can result from ingestion of food or water contaminated with human or animal feces or exposure to fomites or contaminated environments.
Signs/Symptoms: Classic signs of hemolytic uremic syndrome include red blood cell destruction (hemolytic anemia), low number of platelets (thrombocytopenia), and acute kidney failure. Symptoms include decreased frequency of urination, fatigue, progression to kidney failure often requiring dialysis, and neurological impairment (e.g., stroke or seizures). HUS, if it occurs, develops on average seven days after the first symptoms of infection.
Prevention: Since most cases of HUS result from infection with Shiga toxin-producing bacteria, initial preventive measures should include careful hand washing after using the bathroom, changing diapers, handling animals or their feces, and before preparing and eating food. All ground beef should be cooked thoroughly to an internal temperature of at least 160°. Raw milk, unpasteurized dairy products, and unpasteurized juices should not be consumed. People with proven or suspected *E. coli* infection should not use recreational water venues. Once infection with Shiga toxin-producing bacteria occurs, additional measures to prevent the infection further developing to HUS may include hospital admission and close monitoring of the patient, especially in children under five years and adults over 75 years. Family history of HUS should be obtained. Prompt rehydration of the patient should begin. Possible development of HUS should be monitored using appropriate laboratory testing methods. Antimicrobial agents should not be administered. The case should be reported to the local health department in order to initiate an epidemiologic investigation to identify the source of transmission and to prevent further spread.
Other Important Information: Five to ten percent of persons diagnosed with Shiga toxin-producing *E. coli* infection develop HUS. The syndrome occurs in up to 15% of children with *E. coli* O157:H7 infection. For more information, see the section of this report on *E. coli* Infection, Shiga Toxin-Producing.

Hemolytic Uremic Syndrome (HUS): 2016 Data Summary	
Number of Cases:	4
5-Year Average Number of Cases:	4.4
% Change from 5-Year Average:	-9%
Incidence Rate per 100,000:	0.0

Four cases of HUS were reported in Virginia during 2016, which is the same number of cases reported in 2015. The four cases in 2016 represent a slight decrease from the five-year average of 4.4 cases per year. Among the cases, one person was Shiga toxin positive and three did not have Shiga toxin testing performed but did report diarrheal illness. The age of the cases ranged from 1 to 19 years. All cases occurred in the white population. Three cases were in females and one was in a male. Two cases each were reported from the northern and northwest regions. Three cases occurred between March and June and one occurred in December. Two cases were part of an *E. coli* outbreak. No deaths were attributed to HUS in 2016.